THE TASK

When blasting parts during de-scaling, deburring, surface finishing (e.g. texturing, polishing) and parts cleaning (removal of rust, sand, paint and contaminants), dust is created on the surface of the material being treated by blasting abrasives such as iron, stainless steel shots or a variety of granulate material. This dust must be thoroughly extracted and separated.

When selecting an extraction system it is necessary to take into consideration the dust characteristics as well as the customer’s requirements, the constantly growing product throughput at high blasting quality versus a sliding efficiency.

THE SOLUTION

We are capable of extracting explosive, combustible or harmful dust because of our dry and wet working systems. Our wide range of products ensures an optimal balance among essential system technology, investment, and operating costs. We can achieve the best solution for the corresponding blasting process.

We naturally emphasize the necessity of technological fire and explosion safety measures. This would include the performance of risk analyses with extensive documentation of the system’s fabrication and design.

ADVANTAGES

- Optimized dust collection and air flow balancing resulting in minimal air flows, thereby reducing investment costs, operating costs and space requirements.
- System design taking into consideration the latest and most important guidelines
- Customized separation systems
- Substantial knowledge of the steel process as well as the upstream and downstream manufacturing steps
- Expert aftermarket assistance with extensive service, spares inventory and fast reaction times
- Air ventilation according to TRGS 560 air quality regulations
- Cost-saving explosion and fire protection alternatives
- Dust collector container exchange during system operation
- High-efficiency dust filter with BIA test certification
- Disposal systems, determined by the volume of dust
- Filtration and separation technology for finishing treatment processes
DRY SEPARATORS FOR BLASTING PROCESSES

We extract and clean airflow volumes from a few hundred up to several hundred thousand cubic meters per hour with our graduated series of filtration units, type VARIO, L-CUT or PT models.

SAMPLE INSTALLATIONS

![Dry separator VARIO](image1.jpg)
![Dry separator PT](image2.jpg)

DIAGRAM AND DESCRIPTION OF VARIO

1. Dirty air inlet; on optional sides of the unit
2. Baffle plate; at the dirty air inlet
3. Filter elements
4. Waste disposal bin
5. Clamping mechanism for disposal bin
6. Jet piping to clean the filter elements
7. Suction nozzle
8. Fan impeller; directly coupled with the motor
9. Radial fan
10. Compressed air tank
11. Diaphragm valves; electromagnetic
12. Motor with three built-in temperature probes (for motor protection)
13. Sound-absorbing lining
14. Compressed air connection for VARIO 1 - 3 with ½" fitting
15. Clean air outlet; pipe connection possible
16. Door to access the filter housing
17. Electrical switch control cabinet or terminal box
18. Safety device against fail
19. Filter housing without waste disposal device
20. Connecting frame
21. Rotary valve
22. Support frame
23. Hopper
24. Electrical connection
WET SCRUBBERS FOR BLASTING PROCESSES

VENTURI WET SCRUBBER

The Venturi wet scrubber series is geared toward the separation of substances which cannot normally be separated by dry operating systems.

Foreign substances are extracted at their source and are directed by ductwork to the dirty air inlet of the separator. The spraying zone is located at this point. The airflow is extracted and intensely sprayed at the narrowest point creating a uniform water mist which moistens the dust particles. Strong rotation in the separator housing separates the water drops from the airflow by centrifugal force. The cleaned airflow flows through a turbulence eliminator to the radial fan which directs the exhaust into the exhaust air re-circulating system.

The separated dust settles and is discharged through a disposal system.

SYSTEM TYPES

The Venturi wet scrubber type series is available in three models (VDN-E, VDN-T, VDN-AS) which are offered in various dimensions and which differ regarding their type of discharge. With this series of wet scrubbers we can extract airflow of 2.500 m³/h to 28.000 m³/h.

Keller Lufttechnik provides the compact collectors in a "Z" version for particularly combustible and explosive dusts such as magnesium or aluminium alloys, with the following safety equipment:

- spark-proof fan impeller/housing combination
- electronic flow monitoring
- water level safety switch
- electrical interlock with the processing machine
REFERENCES - brief version

Rösler Oberflächentechnik, Untermerzbach
Schlick roto-jet GmbH, Metelen
Konrad Rump, Salzkotten
Agtos, Emsdetten
Walther Trowal, Haan
Handmann, Biberach
Jura Guss, Beilngries
Wheelabrator, Köln
VW, Kassel
Daimler AG, Esslingen-Mettingen
Rautenbach Guss, Wernigerode
Hörbiger, Oberstenfeld